

## Plague

### What is plague?

Plague is a disease caused by *Yersinia pestis* that affects rodents (e.g., squirrels, prairie dogs, or mice), other mammals (e.g., rabbits or hares), and humans. These bacteria are found in many areas of the world, including the United States. There are three forms of plague: bubonic, pneumonic (lung infection) and septicemic (bloodstream infection).

### Who gets plague?

Plague is rare in the United States, with an average of 7 human plague cases reported each year (range: 1– 17 cases per year) in recent decades. Cases in the U.S. generally occur in rural and semi-rural areas in the west and southwest. Worldwide, about 1,000 to 2,000 cases of plague are reported every year.

### How is plague spread?

People can get plague by being bitten by infected fleas, handling infected animals, or being exposed to persons or animals with pneumonic plague.

### What are the symptoms of plague?

Symptoms of plague can include fever, chills, nausea, headache and body aches. Specific types of plague can also lead to other symptoms. For example, with bubonic plague, patients develop a swollen, painful lymph node (called a “bubo”) near the site where an infected flea bit the person. For septicemic plague, patients develop abdominal pain, shock and bleeding into skin and other organs. For pneumonic plague, patients develop a cough with bloody or watery sputum.

### How soon after exposure do symptoms appear?

Symptoms usually appear within one to six days of exposure, depending on the form of plague.

### How is plague diagnosed?

Laboratory tests of samples from a patient are necessary to confirm the diagnosis of plague.

### What is the treatment for plague?

Plague can be treated effectively with antibiotics. Early diagnosis and appropriate treatment are important to increase the chances of survival. About 11% of all plague cases in the U. S. are fatal. Plague can lead to death even if treated with effective antibiotics, though the death rate is lower for bubonic plague than for septicemic or pneumonic plague.

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### **How can plague be prevented?**

Travelers to and residents of areas where plague is more common should avoid contact with rodents and fleas, avoid handling sick or dead stray animals, and stay away from rodent-infested places. Insecticides or insect repellents effective against fleas should be used. Sometimes antibiotics will be prescribed to prevent plague in close contacts of someone who has the disease. If an attack occurred that used plague as a bioterrorism weapon, antibiotics would be provided to anyone who was exposed to prevent disease. Currently, a plague vaccine is not available.

### **Could plague be used for bioterrorism?**

Experts are concerned that plague could be used as a bioweapon because the bacterium occurs in nature and could be isolated and grown in a laboratory. If plague were used in an aerosol attack, it could cause the pneumonic form of plague that spreads from one person to another.

### **How can I get more information about plague?**

- 1) If you have concerns about plague, contact your healthcare provider.
- 2) Call your local health department. A directory of local health departments is located at <http://www.vdh.virginia.gov/LHD/index.htm>.
- 3) Visit the Centers for Disease Control and Prevention website at <http://www.cdc.gov/plague/>.